272 The distillation methods used are good ones, but the equipment used leaves much to be desired and does not make it possible to obtain rectified alcohol of a high degree. By taking 25 or 28 proof native alcohol and distilling it for a second time with European equipment, a fairly good-tasting alcohol can be obtained which is 68 to 72 proof.

389 Powder-making. The inhabitants of Laos make the powder themselves which they use for hunting and for fireworks. They know how to proportion and triturate the ingredients--charcoal, saltpeter (1)

[317] (1) The saltpeter which is collected in grottoes containing calcareous rocks is chiefly made up of masses of droppings from birds and bats. The bat is called "Kiea" and saltpeter "Khi-Kiea," or, literally, Droppings of bats.

and sulphur--in order to make either explosive powder or fusing powder.

792 The bonzes are the fireworks-makers par excellence who make
527 the many and varied fireworks without which no celebration is really
389 complete. Bombs, firecrackers, Roman candles, serpents, pinwheels, etc. and, in a word, almost all the usual fireworks are made using rudimentary processes and local products.

389 The rockets (Bang-Fai) deserve special mention. They consist of a body containing fusing powder, to which is attached a wick several meters long and made of spun cotton or sometimes even of paper. The latter is smeared with mealed gunpowder mixed with gum, and the whole is fastened to a directing shaft. If the rocket is an Aeolian one, its rear is provided with a kind of Pan's pipe made of bamboo tubes which gives forth a harmonious sound as it describes its trajectory in the air.

The rockets vary greatly in size. In some the powder weighs only a few decagrams, and [468] the guide shaft is from two to three meters long. Other larger ones carry a "Mune" of powder (about 12 kilograms) and sometimes more, and the guide shaft is a whole stalk of bamboo some 15 meters long and from 12 to 15 centimeters in base diameter.

Rockets are generally decorated with gilded or colored paper. With the application of rice paste motifs, some of them manage to look very like a dragon with threatening jaws and terrifying eyes, and in these the body envelops the shaft and the head contains the Aeolian harp as well as the powder cylinder. The stands used for launching

389 the rockets are naturally in proportion to the size of the latter. For large rockets, they are made up of a kind of broad, triangular ladder, the top of which is leaned against a tree top.

524 527 Hot air balloons. In northern Laos, balloons are constructed out of paper which is either made locally or imported from China. They are cylindro-spherical in shape and a little gondola of rattan cane is suspended from them by a cotton thread. In the gondola there is an oil cup filled with lard and provided with two or three cotton wicks, and these are lit in order to keep the air in the balloons hot for a given length of time.

Since they are generally launched in the evening at the time of the great holiday of the twelfth month (October-November), the absence of wind makes it possible to follow their aerial course as long as the cotton wicks continue to give off light.

[469] [Illustration at top of page]

CHAPTER X

1. PRESENT ROUTES OF COMMUNICATION BY LAND

487 We have already dealt in Chapter II with the routes of communication by river, and so shall deal here only with land routes (1).

(1) See Appendix XXVII.

In Laos they are of three kinds:

1. The cart roads negotiable by ox-carts and wagons;
2. The mule tracks over which elephants, horses, mules and oxen can pass.
3. The paths or even mere trails which can be used only by travelers on foot.

[481] [470] As a consequence of the ingrained habit which both animals and people have of always walking in single file, the roads of Laos, like those of many other lands, are reduced to the width of a path which is marked on the ground either by the trampling animals and men, or by two deep ruts into which the wheels of carts sink. In the forest, depending on how wide and how high a path has been cleared through the undergrowth, a road may be practicable for elephants, men on horseback, oxen or only for travelers on foot.